

IN THE CLAIMS

1. (Previously Presented) An apparatus for recording/reproducing a voice message in response to an incoming call to an exchange system, said apparatus comprising:

at least one subscriber unit for entering said voice message; and

an internet gateway arranged within an exchange system for recording/reproducing said voice message, said internet gateway comprising:

(i) a digital-signal-processor (DSP) having a plurality of ports as data communicating paths, said digital signal processor having buffer, a data compressor for compressing said voice message, and a data decompressor for decompressing said voice message stored in said buffer, and for outputting said voice message via one of said plurality of port;

(ii) a call processor for establishing a call connection between said subscriber unit and said internet gateway in response to said incoming call and for outputting port information indicating an available port among said plurality of ports;

(iii) a DSP manager coupled to said call processor for activating said available port of said digital-signal-processor in response to said port information;

(iv) a flash memory for storing said compressed voice message; and,

(v) a controlling circuit coupled to said flash memory for controlling the stored characteristics of said compressed voice message to be stored in said flash memory and for retrieving said voice message stored in said flash memory in said buffer in response to said incoming call from said telephone unit;

2. (Original) The apparatus as set forth in claim 1, wherein said data compressor and said data decompressor, respectively, compresses and decompresses said voice message according to one of the algorithms set forth in G.723.1 and G.729.

3. (Original) The apparatus as set forth in claim 1, wherein said voice message corresponds to a plurality of voice messages.

4. (Original) The apparatus as set forth in claim 3, wherein said controlling circuit stores said compressed voice message, one by one, in a file in said flash memory in response to a request signal from said subscriber unit for terminating the recording of said voice message.

5. (Original) The apparatus as set forth in claim 4, wherein said controlling circuit merges said compressed voice message stored in said flash memory.

6. (Original) The apparatus as set forth in claim 5, wherein said controlling circuit marks each said compressed voice message stored in said flash memory to indicate the end of said file.

7. (Original) The apparatus as set forth in claim 1, wherein said controlling circuit periodically controls the movement of said voice message from said flash memory to said buffer in response to said incoming call.

8. (Original) The apparatus as set forth in claim 7, wherein said controlling circuit retrieves said voice message from said flash buffer at every 30 milliseconds.

9. (Previously Presented) An apparatus for recording a voice message to be announced in response to an incoming call to an exchange system, said apparatus comprising:

at least one subscriber unit for entering said voice message; and

an internet gateway arranged within an exchange system for recording said voice message, said internet gateway comprising:

(i) a digital-signal-processor(DSP) having a plurality of ports as data communicating paths, said digital signal processor having a data compressor for compressing said voice message;

(ii) a call processor for establishing a call connection between said subscriber unit and said internet gateway in response to said incoming call and for outputting port information indicating an available port among said plurality of ports;

(iii) a DSP manager coupled to said call processor for activating said available port of said digital-signal-processor in response to said port information;

(iv) a flash memory for storing said compressed voice message; and,

(v) a controlling circuit coupled to said flash memory for controlling the stored characteristics of said compressed voice message to be stored in said flash memory.

10. (Original) The apparatus as set forth in claim 9, wherein said data compressor compresses said voice message according to one of the algorithms set forth in G.723.1 and G.729.

11. (Original) The apparatus as set forth in claim 9, wherein said voice message corresponds to a plurality of voice messages.

12. (Original) The apparatus as set forth in claim 11, wherein said controlling circuit stores said compressed voice message, one by one, in a file in said flash memory in response to a request signal from said subscriber unit for terminating the recording of said voice message.

13. (Original) The apparatus as set forth in claim 12, wherein said controlling circuit merges said compressed voice message stored in said flash memory.

14. (Original) The apparatus as set forth in claim 13, wherein said controlling circuit marks each said compressed voice message stored in said flash memory to indicate the end of said file.

15. (Currently Amended) An apparatus for reproducing a voice message in response to an incoming call to an exchange system, said apparatus comprising:

at least one subscriber unit; and

an internet gateway arranged within an exchange system_for playing said voice message stored therein in response to said incoming call, said internet gateway comprising:

(i) a flash memory for storing said voice message having at least one message;

(ii) a digital-signal-processor having a plurality of ports, a buffer and a data decompressor for decompressing said voice message stored in said buffer, and for outputting said decompressed voice message via one of said plurality of port;

(iii) a controlling circuit coupled to said flash memory for retrieving said voice

message stored in said flash memory in said buffer and for storing said retrieved voice message in said buffer in response to said incoming call from said telephone unit;

(iv) a call processor for establishing a call connection between said subscriber unit and said internet gateway in response to said incoming call from said telephone unit, for outputting port information indicating an available port among said plurality of ports of said digital-signal-processor, and for outputting said voice message responsive to said incoming call; and,

(v) a DSP manager coupled to said call processor for activating said available port of said digital-signal-processor in response to said port information.

16. (Original) The apparatus as set forth in claim 15, wherein said data decompressor decompresses said voice message according to one of algorithms set forth in G.723.1 and G.729.

17. (Original) The apparatus as set forth in claim 16, wherein said controlling circuit periodically controls the movement of said voice message from said flash memory to said buffer in response to said incoming call.

18. (Original) The apparatus as set forth in claim 17, wherein said controlling circuit retrieves said voice message from said flash buffer at every 30 milliseconds.

19. (Previously Presented) A method for recording a voice message in response to an incoming call in an exchange system having an internet gateway arranged within an exchange system that includes a DSP with a data compressor for compressing said voice message and for supporting a plurality of ports as data transmitting/receiving paths, and that further includes a flash memory for storing said compressed voice message, said method comprising the steps of:

establishing, upon a request for recording said voice message from a subscriber unit, a call connection between said subscriber unit and said internet gateway;

determining an available port of said DSP;

receiving said voice message from said subscriber unit via said available port and compressing said received voice message by said data compressor; and,

storing said compressed voice message in a file in said flash memory.

20. (Original) The method as set forth in claim 19, wherein said voice message corresponds to a plurality of voice messages.

21. (Original) The method as set forth in claim 20, further comprising the step of merging said each voice message and marking each said voice message with end-of-marking to be stored in said flash memory.

22. (Original) The method as set forth in claim 19, wherein the data compressor compresses said voice message received from said available port according to one of the algorithms set forth in G.723.1 and G.729.

23. (Previously Presented) A method of reproducing a voice message from an exchange system having an internet gateway arranged within an exchange system, which includes a flash memory for storing compressed said voice message, and a DSP having a buffer and a data decompressor for decompressing said voice message, for supporting a plurality of ports as data transmitting/receiving paths, said method comprising the steps of:

establishing, upon a request for reproducing said voice message from said internet gateway,

a call connection between a subscriber and said internet gateway;

determining an available port of said DSP and corresponding voice message stored in said flash memory responsive to said incoming call;

activating said available port of said DSP;

retrieving said voice message responsive to said determined voice message stored in said flash memory to said buffer of said DSP;

reading said retrieved voice message in said buffer and decompressing said read voice message by said data decompressor; and,

announcing said decompressed voice message to said subscriber via said activated port of said DSP.

24. (Original) The method as set forth in claim 23, wherein said voice message stored in said buffer is performed at a predetermined time interval.

25. (Original) The method as set forth in claim 23, wherein said data decompressor decompresses said voice message retrieved from said buffer according to one of the algorithms set forth in G.723.1 and G.729.

26. (Previously Presented) The apparatus according to claim 1, wherein the exchange system comprises a private automatic branch exchange (PABX) without requiring a separate voice

mail system (VMS) to be in communication with said PABX.

27. (Previously Presented) The apparatus according to claim 9, wherein the exchange system comprises a private automatic branch exchange (PABX) without requiring a separate voice mail system (VMS) to be in communication with said PABX.

28. (Previously Presented) The apparatus according to claim 15, wherein the exchange system comprises a private automatic branch exchange (PABX) without requiring a separate voice mail system (VMS) to be in communication with said PABX.

29. (Previously Presented) The method according to claim 19, wherein the exchange system comprises a private automatic branch exchange (PABX) without requiring a separate voice mail system (VMS) to be in communication with said PABX, and wherein the receiving and storing of said voice message occurs within the Internet Gateway of the branch exchange.

30. (Previously Presented) The method according to claim 23, wherein the exchange system comprises a private automatic branch exchange (PABX) without requiring a separate voice mail system (VMS) to be in communication with said PABX, and wherein the retrieving, reading, decompressing and announcing of said voice message occurs within the Internet Gateway of the branch exchange.